

local features such as bodies of water, stars, or a compass. The Feng shui also recommended the physical arrangements for manipulation and channeling the qi (positive or negative energy) Although, Feng shui is related with traditional believe and propitious manner, but some of its principles are rational. Therefore, the research is conducted to any positive impacts of the feng shui application in modern house design. A home in Jakarta designed with Feng shui was analyzed. The strategies were later examined based on the sustainable architectural design principles, especially its impact on the home functionality. Keywords: Feng shui, Sustainable Architectural Design, Rationale, Functionality

INTRODUCTION The

Feng shui, the "wind-water", is a Chinese system of geomancy using the laws of both Heaven and Earth for harmony and balance of life with the positive qi. Feng shui is widely used to orient temples, palaces, shops, houses, and other structures, with the reference to local features such as bodies of water, stars, or a compass. The Feng shui also recommended the physical arrangements for manipulation and channeling the qi (positive or negative energy)

(http://en.wikipedia.org/wiki/Feng_shui). Feng shui is

widely accepted

in China, Korea, Japan, Singapore, Thailand, Vietnam, Malaysia, and the Philippines

(Guiley, R., 1991, quoted in Montenegro, M., 2003). And Feng shui came

to the United States and other Western countries in the

1970s, also later was used by Donald Trump and Merrill Lynch (Singh, A., 2000, quoted in Montenegro, M., 2003). In

2001, Hong Kong billionaire businessman Eric Hotung decided selling the

Senator Ted Kennedy's house that he bought earlier because of bad feng shui" (Trudeau, G., 2001, quoted in Montenegro, M., 2003). This more exposed the feng shui and made more people believing to the system, such as

business people, merchants, home builders, real estate brokers, interior designers, corporate managers, regular home buyers, and

spending enormously for the consultancy (Singh, A., 2000, Hanks, D. III, 2002, Yui, A., 2002, Heyamoto, L. 2002, Athens, J., 2000, quoted in Montenegro, M., 2003). In Indonesia, the feng shui is also believed by many business persons and home owners. But, the Chinese Indonesian normally applied feng shui with lack of theory and consideration (<http://properti.kompas.com/kolom/fengshui>, <http://www.indofengshui.com/paidarea/index.php/> Kompas.html, <http://rumahminimalissederhana.com/category/fengshui-rumah/>, <http://www.qualife-fengshui.com/index.php/2-uncategorised/6>

-praktek- feng-shui-benarkah-dapat-memperbaiki-nasib-seseorang,

http://www.propertykita.com/artikel/fengshui/feng_shui_yang_memberi_harmoni-1368.html). Unfortunately, the feng shui application is inconsistent with Christianity. Therefore the Architecture Program Study of Petra University was discouraged to implement it. The research question to be answered is there

any positive impacts of the feng shui application,

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related to the functionality. The Goals of the Project were: • To find whether the fengshui application improve the functionality of the architectural design, • To find functional design solution for a house case study that is designed with feng shui METHODOLOGY The research was conducted with literature review and a house evaluation designed with the feng shui approach. The feng shui strategies were checked whether contribute positively to functional live of the home owners. Later, the positive recommendations would be differentiated from feng shui myths. LITERATURE REVIEW The main essence of feng shui is the Chi. It could be defined as energy or force that provide vitality, harmony, creativity, also moral courage. It also controls every aspect of the universe. And it was developed by Lao

Tzu, Confucius, Mencius, between the sixth and fourth centuries B.C.

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(Guiley, R.,1991, quoted in Montenegro, M.,2003). The chi should be controlled not too flow quickly and not too flow slowly. And it could be destructive if totally blocked (Henwood,B., Choy,H., 1999, quoted in Montenegro, M.,2003). The chi could be divided into two element the yin (shade) and yang (light). And they should be in balance or complementing each others (Guiley, R.,1991, and Wong,E.,1997, quoted in Montenegro, M.,2003). The Chinese cosmology actually tried to preserve the harmony of heaven, earth and human beings. The translation was that the heaven chi, earth chi, and human chi, (social chi and personal chi) must be in the perfect harmony. And the feng shui could be described

as a relationship study between the way of heaven, the earth

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and the human beings. Therefore, human

can choose a life and place to live that harmonizes with

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the way of being human (ren tao). And this relationship is described

by eight different combinations of three parallel unbroken and broken lines called trigrams (or Bagua), which

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described in the I Ching book (Henwood,B., Choy,H., 1999, and Wong,E.,1997, quoted in Montenegro, M.,2003). Henwood and Choy (1999) recommended not to attract the

negative energy (sha chi), which "strikes quickly in straight lines. Therefore, the straight pathways and other

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straight line design forms are to be avoided. On the other hand the

positive energy (sheng chi) should be attracted, which moves along curved lines.

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Spear, W., (1995) recommended to use Bagua for organising of the house. The Bagua is actually used as starting point from which all design decisions are made. The Bagua could be overlaid on the house. The architect or designers could use the basic design principles form Bagua. Basically the Bagua described 4 pairs such as: Heaven and Earth (the Universal Opposites, also masculine and feminine), Fire and Water (the Organic Opposites), Mountain and Lake (the Natural Opposites), Wind and Thunder) the Impulsive Opposites). The Heaven is the creative force, the essential spirit of all and is called the house of Helpful Friends While The Earth is the receptive force or receiving Heaven's blessing such as sun rays, rain and other forces and is called the house of Relationships. The Fire refers to internal light so it is called the house of Illumination. The Water flows through time like the human live therefore it is called the house of Journey. The Mountain cave is the symbol of introspection or called the house of Contemplation. On the other hand the Lake relates to the joyful expression in outer world and offspring therefore it is called the house of Creativity. Thunder is like the booming voice of our ancestors therefore it is called the house of Elders. Lastly the Wind is constant flow of good fortune given by the gift of life and represents the house of

Fortunate Blessings. When all these houses are in the balance, then the home owner would be in state of harmony or the house of Unity (Spear, W., 1995). Figure 1. The Four Pairs of Trigrams or Bagua Source: Spear, W., (1995). Figure 2. The Houses in the Trigrams or Bagua Source: Spear, W., (1995). Figure 3. The Trigrams or Bagua Source: <http://www.impression-lifestyle.nl/files/2012/03/Feng-Shui- kleurencirkel.jpg>. Spear, W., (1995) further explained that Bagua further could be superimposed on the house plan or called the Three-Door Gate of Chi. The Front Door is the "gate" which allow energy entering the home. The Bagua could be used directly for symmetrical and regular shape. It also could be stretched as long as each area remains proportionally. The Three Door Gate of Chi should be applied locating the Front Door at the bottom of page facing down. Some steps recommended after placing the Bagua over the home plan are (Spear, W., 1995): 1. Negative Spaces. • Reclaim the negative space in the house (the area that is missing in the Bagua house) with mirrors. • Produce a symmetrical home plan with home expansion. 2. Poor Placement. • Not to place such as toilet that opens directly to a kitchen. • Not to locate toilets in the Wind (Fortunate Blessings), or opposite the front door, or are located in the centre of the house. • Not to arrange the rooms and corridors that causes doors to bang into each other or obstruct or severely limit free passage. • Not to design the doors opening into the hallway. • Put the furniture (bed, desk or stove) to maintain a wide view to doorway or room. • Put the furniture not directly opposite the door. • Put the furniture not at the 45-degree point. 3. Kitchen. • Consider the kitchen as the most important room in the home. • Design a comfortable ceiling of the kitchen. • Not to place stoves next to sinks or refrigerators. • Not to put the stoves under windows or under skylights. • If a stove is sited in a corner, allow an open view of the door. • Place the stove that faces the east or light (South in the Northern hemisphere and North in the Southern Hemisphere). • Design the eating areas with calm, clear, uncluttered, peaceful. 4. Bedroom or Sleeping Areas. • As the room is for sleeping, design colours, artwork, and other objects to convey peace. • Place TV, stereos, entertainment areas far away from the bed. • • • Place the bedroom at the rear of a house, away from the front door. Place the bed not blocking closet doors or passage to dressing areas or bathrooms. When a bed must placed under slanted ceilings, install canopy covering the bed running parallel to the sleeping surface. Design side tables, headboards dressers, night stands, or valets with slightly rounded edges. 5. Living Areas. • Design the living areas to be comfortable, well – lit. • Design the seating save for occupants and guests. • Place couches and chairs protected from behind with wall, bookcase or side table. • Provide side or end tables nearby the seating located in the middle of the room. Henwood, B. and Choy, H., (1999, quoted in Montenegro, M., 2003) recommended mingua (destiny number) calculation for the home owners (normally the breadwinner/ husband) to do first. It was started with calculation of the person's element (wood, fire, earth, metal, and water). And based on the mingua, the luckiest direction is found. Other recommendations are also described by (Henwood, B. and Choy, H., 1999, quoted in Montenegro, M., 2003) • The

stove should be positioned toward the east and southeast of the kitchen because that is the direction for the wood element. • Flushing the toilet with the lid open increases the chances that "your money will go too." • Cover your computer screen at night if it is in a bedroom so it won't "act as a mirror and disturb your spirit" in sleep. • Hang curtains at the bottom of stairs or put a mirror on the landing to draw chi up so that chi does not flow down and out the door. • To help chi rise up the stairs, put plants under the stairs or hang art that is "light and bright." • Because the kitchen is the money room, cooking on all burners with a variety of food will help bring in money. 2

A home's front door should be simple and practical and face the sun so that it will attract "fame, fortune, and longevity." • Don't have the foot of your bed in line with the door; the bed's head should be on the north/south axis to be "in line with the magnetic energy of the earth." • A pointed roof (associated with fire) against a curved roof shape (associated with metal) is destructive since fire melts metal. 2

DISCUSSION AND RESULT ANALYSIS

Although, Feng shui is related with traditional believes and propitious manner, but some of its principles are quite rational. Therefore, the research is conducted to find the rationale of Feng shui application in modern house design. A home in Jakarta designed with Feng shui was analysed finding the rationale and the strategies. The strategies were later examined based on the sustainable architectural design principles, especially its impact on 1

the home functionality.

The Leo House in Kelapa Gading, Jakarta is designed by Edy Hartono, the principal architect of EDHA Architects (<http://www.edhaarchitects.com/profil.php>). The home site is 240 sqm, while the total building area comprises 552 sqm. And this home was assisted by feng shui master in the home zoning because the owner believe that feng shui will increase the living quality. Later, the architect proposed a modern architecture into this building with functionality and aesthetic. The concept of the home is simple but with a strong character. The building façades basically consist of geometric plane emphasized with vertical and horizontal lines. Lighting and air circulation is being optimized to the maximum in the interior design. At the stair area, a skylight is provided to create a "dramatic" effect. The skylight also produced adequate lighting to the dining area. Figure 4. The First floor plan Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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Figure 5. The Second floor plan Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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Figure 6. The Third floor plan Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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Figure 7. The Front Facade Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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Figure 8. The Interior Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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The Motto of the Architect is actually there is no perfect design. And his design is based on the theory, form, trend and the aim to achieving the best design quality. It should consider the contextual and well utilized. All aspects such as forms, styles, and materials, proportions, details, arts, and technologies also should be solved. Figure 9. The First floor plan analysis according to the Bagua Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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Figure 10. The Second floor plan analysis according to the Bagua Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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Figure 11. The Third floor plan analysis according to the Bagua Source: <http>

[://www.archdaily.com/112155/leo-house-edha-architects/](http://www.archdaily.com/112155/leo-house-edha-architects/).

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The Leo House was zoned based on the Bagua application. The Kitchens are located all in the Illuminations zone, while the Main Bedroom is located in the most private areas in the third floor in the Contemplation zone. The Guest Bedroom are located in the Helpful Friends zone and Living Room is located in second floor in the Unity – Fortunate Blessings – Relationship – Creativity zone. The zoning actually proposed positive recommendation to the home design. Furthermore, some feng shui recommendations are analyzed for positive rationale recommendation in the design. Table 1. Comparison of Theory – Leo House and Positive Impact Recommendation from Theory Leo House Positive or Negative Impact 1. Negative Spaces. Reclaim the negative space in the house (the area that are missing in the Bagua house) with mirrors. Not Neutral. Produce a symmetrical home plan with home expansion. Yes Positive because of land utilisation and earthquake resistance. 2. Poor Placement. Not to place such as toilet that opens directly to a kitchen. Yes Positive because of reducing pest such as rats and cockroaches entering kitchen easily. Not to locate toilets in the Wind (Fortunate Blessings), or opposite the front door, or are located in the centre of the house. No, the children toilet is located in the Fortunate Blessings Neutral for toilets in Fortunate Blessings. Positive for toilets in the centre of the house, because reducing dampness and indoor air pollution. Not to arrange the